

## Three Performance Acronyms You Should Know

**These will help you and your customers understand how heat pump water heaters deliver superior savings.**

As a plumbing professional, you have probably encountered plenty of acronyms when it comes to water heating and energy efficiency. Knowing these terms is useful not just for your own expertise, but also for helping your customers understand why heat pump water heaters (HPWHs) offer so much more than standard electric water heaters.



Here's a look at three key acronyms—**COP**, **UEF**, and **CCE**—as well as why they matter and where you'll find them:

## **COP: Coefficient of Performance**

Simply put, COP measures how much energy a system uses compared to how much useful heating or cooling is provided—in the case of HPWHs, the COP shows how much hot water is created by extracting heat from the surrounding air.

- **What it means:** A COP of 1 indicates 100% efficiency. A COP higher than 1 means the system produces more output (hot water) than the energy it consumes, so the higher the COP, the more efficient the HPWH is.
- **Why it matters:** Most HPWHs have a COP between 3.5 and 4.0, meaning they are significantly more efficient than traditional electric resistance water heaters which have a COP of 1. This highlights why HPWHs are an excellent choice for energy and savings-conscious customers.
- **Where you'll find it:** The COP of a HPWH can be found on the manufacturers' product spec sheet.

## **UEF: Uniform Energy Factor**

UEF is the standard efficiency metric for water heaters as measured in a test procedure established by the U.S. Department of Energy (DOE).

- **What it means:** UEF ratings reflect the efficiency of a water heater based from the tank. Water heaters are broken out into four groups based on size and first-hour delivery so similar models by different manufacturers can be compared to each other. The higher a unit's UEF, the more efficient it is in relation to others in that group.
- **Why it matters:** The DOE's UEF rating provides a consistent comparison across models, helping both installers and customers understand potential energy savings. You can confirm a product's UEF ratings on the **EnergyGuide label** and quickly identify high-performing water heaters. Learn more in this article from ENERGY STAR®: **What is Uniform Energy Factor and Why Does it Matter?**
- **Where you'll find it:** The UEF for a HPWH can be found in the **AHRI Directory**, which displays final UEF test results, and on **ENERGY STAR's Product Finder**, which identifies UEF for each qualifying unit.

## CCE: Cold Climate Efficiency

The CCE measure is similar to UEF, but specifically measures efficiency in colder temperatures.

- **What it means:** HPWHs work harder to extract heat in lower temperatures. CCE accounts for this by testing efficiency under cold climate conditions, including how often the unit relies on backup electric resistance elements.
- **Why it matters:** For customers with HPWHs installed in garages and unconditioned basements, understanding CCE is essential to setting realistic expectations for efficiency during winter months. Choosing models with a strong CCE ensures better performance year-round.
- **Where you'll find it:** The CCE for a HPWH appears in the Northwest Energy Efficiency Alliance's **Qualifying Product List**, which is referenced by utility programs throughout the Northwest and United States.

## Why These Metrics Matter to Installers

Understanding these acronyms helps you:

- **Choose the best units** for your customers' needs.
- **Explain energy savings** and performance metrics in a way that builds customer trust.
- **Navigate conversations** about efficiency requirements and incentives, making your expertise a valuable resource.

By mastering these terms, you can position yourself as an informed professional and advocate for energy-efficient solutions.

